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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,010	03/31/2004	Ryuji Ohmuro	1232-5363	9560
27123 7590 12/20/2006 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER LE, THI Q	
			ART UNIT	PAPER NUMBER
			2613	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/20/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/816,010

Applicant(s)

OHMURO, RYUJI

Examiner

Thi Q. Le

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☐ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/08/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on 11/08/2004 was considered by the examiner.

Specification

3. The disclosure is objected to because of the following informalities:
 - a) On line 2 of paragraph 0008, replace "103" with --101--, after "a collimator lens".
 - b) On line 5 of paragraph 0044, replace "FIG. 3" with --FIG. 2--, after "is opposite to that in".
 - c) On line 1 of paragraph 0050, replace "FIG. 2" with -- FIG. 3--, before "shows the structure of a communication".

Appropriate correction is required.

Claim Objections

4. **Claim 7** is objected because they recite terminology of proximity.
 - a) **Claim 7 line 7**, the term "substantially" was recited.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claim 1** is rejected under 35 U.S.C. 102(b) as being anticipated by **Sakanaka (US PGPub 2002/0080452 A1)**.

Consider **claim 1**, Sakanaka clearly shows and discloses, an communication optical system comprising: a light source (read as, light emitting device 35; figure 4); a light-receiving element (read as, light receiving element 40; figure 4); and a beam-splitting member (read as, beam splitter 33; figure 4), which performs one of transmission and reflection towards an incident/emergent port (read as, light transmitted to movable mirror 31; figure 4), of a first light beam from the light source, and performs one of reflection and transmission towards the light-receiving element (read as, light transmitted to light splitting mirror 38; figure 4), of a second light beam from the incident/emergent port; wherein the light source and the light-receiving element are arranged on the same side with respect to the beam-splitting member (read as, light receiving element 40 and light emitting device 35 are on the same side with respect to beam splitter 30; figure 4) (figure 4; paragraphs 0028-0029).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2613

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. **Claims 2, and 4-6** rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakanaka (US PGPub 2002/0080452 A1)** and in view of **Inou et al. (US Patent # 4,783,851)**.

Consider **claim 2, and as applied to claim 1 above**, Sakanaka disclosed the light source and the light-receiving element are arranged on the same side with respect to the beam splitter 33, and the invention as described above. Sakanaka fails to disclose, a first and a second prism, which are cemented to each other; wherein the beam-splitting member is arranged at a cemented portion of the first prism and the second prism.

In related art, Inou et al. disclose, a first prism (read as, beam splitter 271; figure 6) and a second prism (read as, prism 272; figure 6), which are cemented to each other; wherein the beam-splitting member (read as, the contacting surface between beam splitter 271 and prism 272; figure 6) is arranged at a cemented portion of the first prism and the second prism (figure 6; column 4 lines 45-50).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Inou et al. with Sakanaka. Since Sakanaka offers an optical coupling device capable of high speed optical switching.

Consider **claim 4, and as applied to claim 2 above**, Sakanaka further disclose wherein the second prism comprises a first surface (read as, the left surface of prism 272; Inou et al., figure 6) cemented to the first prism, and a second surface (read as, the right surface of prism 272; Inou et al., figure 6) which is parallel to the first surface (Inou et al., figure 6; column 4 lines 45-50).

Consider **claim 5, and as applied to claim 4 above**, Sakanaka further disclose wherein the second prism comprises a third surface (read as, the top surface of prism 272; Inou et al., figure 6) disposed on the opposite side of the first surface with respect to the light source (read as, optical signal I21; Inou et al., figure 6), and the third surface is arranged non-perpendicularly (read as, the top surface of prism 272 is parallel to the optical axis of optical signal I21; Inou et al., figure 6) to an optical axis of the first light beam extending from the light source to the beam-splitting member (Inou et al., figure 6; column 4 lines 45-50).

Consider **claim 6, and as applied to claim 4 above**, Sakanaka further disclose wherein the second prism comprises a third surface (read as, the top surface of prism 272; Inou et al.,

figure 6) disposed on the opposite side of the first surface with respect to the light source, and the third surface is arranged non-parallel to an incident surface (read as, the left surface of beam splitter 271; figure 6) of the first prism on which the first light beam is incident (read as, the top surface of prism 272 is perpendicular to the left surface of beam splitter 271; Inou et al., figure 6) (Inou et al., figure 6; column 4 lines 45-50).

11. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakanaka (US PGPub 2002/0080452 A1)** and in view of **Kato et al. (US Patent # 6,618,177)**.

Consider **claim 8**, and as applied to **claim 1** above, Sakanaka disclosed the communication optical system according to claim 1; but fails to disclose a driving circuit modulating the light source in accordance with communication information; and an output circuit outputting a signal from the light-receiving element.

In related art, Kato et al. disclose, a driving circuit (read as, the combination of modulating division 42 and laser driving circuit 43; figure 3) modulating the light source in accordance with communication information; and an output circuit outputting a signal from the light-receiving element (read as, light receiving circuit 44; figure 3).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Kato et al. with Sakanaka. Since Kato et al. disclose in details the method of generating a transmit signal and the method of processing the received signal. Further, it would have been obvious for a person of ordinary skill in the art to understand that all optical transmitter and receiver have processing unit to generate the transmitted signal and process the received signal.

Allowable Subject Matter

12. **Claim 7** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) Buhrer, Carl F.; 4,671,613
- b) Ohtsubo, Masatoshi; 2001/0043380 A1
- c) Takayama et al.; 6,384,944
- d) Neubert et al.; 6,396,608
- e) Wong et al.; 2002/0163691 A1
- f) Degura, Yasusaburo; 6,493,122
- g) Orino et al.; 6,650,450
- h) Triebes et al.; 2004/0151504 A1
- i) Zalevsky et al.; 2005/0174639 A1

14. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

15. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Thi Le whose telephone number is (571) 270-1104. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Thi Le


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER